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(71) Applicants (for all designated States except US): MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V. [DE/DE]; Berlin (DE). MAX-DELBRÜCK-CENTRUM FÜR MOLEKULARE MEDIZIN (MDC) BERLIN-BUCH [DE/DE]; Berlin-Buch, Robert-Rössle-Strasse 10, 13092 Berlin (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WANKER, Erich [AT/DE]; Wolfshagener Strasse 85, 13187 Berlin (DE). LEHRACH, Hans [AT/DE]; Terrassenstr. 31, 14129 Berlin (DE). GÖHLER, Heike [DE/DE]; Blissestr. 68, 10713 Berlin (DE). STRÖDICKE, Martin [DE/DE]; Liebenwalder-Str. 34a, 13347 Berlin (DE). STELZL, Ulrich [AT/DE]; Greifwalder-Str. 40, 10405 Berlin (DE).

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(54) Title: DISEASE RELATED PROTEIN NETWORK

(57) Abstract: The present invention relates to a method for generating a network of direct and indirect interaction partners of a disease-related (poly)peptide comprising the steps of (a) contacting a selection of (poly)peptides suspected to contain one or several of said direct or indirect interaction partners with said disease-related (poly)peptides and optionally with known direct or indirect interaction partners of said disease-related (poly)peptide under conditions that allow the interaction between interaction partners to occur; (b) detecting (poly)peptides that interact with said disease-related (poly)peptide or with said known direct or indirect interaction partners of said disease-related (poly) peptide; (c) contacting (poly)peptides detected in step (b) with a selection of (poly) peptides suspected to contain one or several (poly)peptides interacting with said (poly)peptides detected in step (b) under conditions that allow the interaction between interaction partners to occur; (d) detecting proteins that interact with said (poly) peptides detected in step (b); (e) contacting said disease related (poly)peptide and optionally said known direct or indirect interaction partners of said disease-related (poly)peptide, said (poly)peptides detected in steps (b) and (d) and a selection of proteins suspected to contain one or several (poly)peptides interacting with any of the afore mentioned (poly)peptides under conditions that allow the interaction between interaction partners to occur; (f) detecting (poly)peptides that interact with said disease-related (poly)peptide and optionally said known direct or indirect interaction partners of said disease-related (poly)peptide or with said (poly)peptides identified in step (b) or (d); and (g) generating a (poly)peptide/(poly)peptide interaction network of said disease-related (poly)peptide and optionally said known direct or indirect interaction partners of said disease-related (poly)peptide and said (poly)peptides identified in steps (b), (d) and (f). Moreover, the present invention relates to a protein complex comprising at least two proteins and to methods for identifying compounds interfering with an interaction of said proteins. Finally, the present invention relates to a pharmaceutical composition and to the use of compounds identified by the present invention for the preparation of a pharmaceutical composition for the treatment of Huntington's disease.

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